

The Importance of Embryo Transfer:

I believe that embryos and international marketing go hand in hand and as yet we are still only in the developing stages of this market.

Introduction

I have a farming background, being born and bred on my parent's stud property near Mount Gambier, South Australia. After leaving school I worked on the family farm for six years and then joined Southern Farmers, which later become Bennetts Farmers. I was employed there for 11 years, the last five as Manager of the Dairy Division. It was at that time, over 12 years ago, that I arranged the first commercial embryo transfer programmes in South Australia. This was at a time when embryo transfer was becoming a commercially viable on-farm procedure. Collections were done non-surgically but transferring of the embryo was still being done surgically.

During the last 12 years embryo work and marketing has taken me to Hong Kong, Korea, and Taiwan, where I have spoken on the advantages that embryo transfer would have for those countries, and I have helped conduct an intensive training and education programme on embryo transfer in China. It has seem me travel to Canada and USA eight times to keep abreast with the latest in embryo technology and to be able to observe and then select the best of the North American bloodlines in dairy and beef cattle to be imported into Australia. Also, I have travelled four times to Mexico where I do consulting work on farming methods and marketing of Australian cattle genetics to the Mexican Government and companies.

I believe that embryos and international marketing go hand in hand and as yet we are still only in the developing stages of this market. The changing technology is allowing the growing awareness of this market worldwide. Changes that have occurred over recent years include the ability to achieve higher pregnancy rates with the use of frozen embryos. The relaxation of the protocol by many governments has allowed for easier conditions in which we can now trade internationally. This relaxation has been brought about by continual research into the non-ability of embryos to transmit diseases, including diseases that are transmitted in frozen semen. It is generally believed that research will provide that whilst the embryo shell is intact and the embryo is thoroughly cleansed, then that embryo with its genetics set will not transmit any diseases around the world. If this research is proven we may see that embryos can be collected anywhere in the world without the need of quarantine and transported disease free to any other country. We are also seeing great steps being taken in the areas of sexing and splitting embryos. Some of the latest technology, not yet available commercially, shows us that a cloning technique is being developed and this could result in over 1,000 calves being born from the one embryo.

Australia is well placed to take advantage of this international trade and being able to make use of this latest technology. With the cost of importing live cattle from North America at approximately \$7,000 per head compared to the cost of importing hundreds of embryos in a liquid nitrogen refrigerator, the embryo trade has expanded quickly. The quarantine costs in North America also greatly favour embryo collection. We have seen many new breeds develop in Australia in recent years, with the majority of the genetics coming in embryo form. Australian breeders have selected superior North American-European genetics that will enhance

BLACKMORE WAGYU BEEF

the Australian livestock industry, and will better place it to compete internationally. Beef cattle have been selected for increased growth and early maturity, for leanness of carcass and size. Not all cattle suit Australian conditions, but the Australian producer is selecting genetics that will enhance the Australian industry. In dairy cattle, cattle have been selected with higher milk flow, higher protein, and better conformation along with genetics that have never before been available in Australia. The importation of embryos allows us to use sires whose semen, because of worldwide demand, may never be qualified for Australia but they can be used as the sire of embryos, at least allowing their genetics to come to Australia.

With the extensive travelling I have done I am currently developing markets where we can sell embryos and semen to overseas countries. I am currently getting enquires from the USA for Australian genetics, also Mexico and other South American countries.

During the last 3 to 4 years I have sold many embryos into the Australian cattle industry. Some of these embryos have been the best available in the world and have been at the high end of the price range. These embryos have now developed into outstanding cattle, but what now makes them attractive to the Australian industry is that these cattle (which are pure Northern American and European breeding) are being embryo collected for the marketing of embryos domestically. Because no quarantine is required and collection costs being cheaper here, these embryos are being marketed in the \$400 to \$700 price range. This makes it a viable proposition for the traditional stud breeder and farmer to obtain the latest in North America genetics. These embryos can be 100% North American Blood, or 50% Australian and 50% North American blood, or what the purchaser requires. I generally like to identify a producer who wants to improve his herd, then to discuss his aims, needs and requirements, and then locate the genetic material that suits his particular breeding programme. Everybody has different aims, needs and goals and so that we can secure genetics from a wide area we can cater to the needs of everyone.

I am also finding that new and young breeders, with careful selection of genetics that are marketable, can become a force in the stud industry in a matter of years and not the lifetime that has been traditional in the past. Also prominent studs are finding that they must keep abreast with the latest technology or these new studs will develop superior cattle that are more marketable. I am not saying that embryo transfer and embryo marketing are essential in stud breeding, but it is another tool that the serious minded stud and commercial breeder has as an option. If a breeder uses the top 5% of his herd as his genetic source and the other 95% as surrogates, providing he has selected genetics that are marketable, he must surely increase his stud's standing in the industry.

We are seeing in Australia two distinct markets being developed in the beef industry. For the domestic market lean beef is required and for the Japanese export market, marbled meat is bringing a premium. I have been able to supply genetics from North America in the past to breed leaner cattle. On my trip just completed I have been able to source a line of cattle that will increase the marbling of Australian cattle.

The Americans are doing a lot of research into these cattle and we must as an industry keep pace with the latest developments. If we can keep up to date with their latest genetics then we should be able to outsell them into the Japanese markets (politics aside) as we can produce cattle in Australia, even in a feedlot situation, much cheaper than can be done in the USA.

ARTICLE: DAVID BLACKMORE